IN THE CLAIMS

1. (currently amended) A method for forming a high strength hydrogel medical implant comprising:

preparing a polymer solution;

injecting the solution into a mold;

causing said molded solution to gel by physically cross-linking the solution;

adjusting the equilibrium hydrogel crystallinity to insure that the swelling pressure of the hydrogel remains stable after implantation by washing said molded gel in a ~~physiologic~~ solution comprising sodium, carbonate, chloride and potassium ions;

dehydrating the molded gel; and

packaging the implant.

2. (original) The method as set forth in claim 1 wherein said washing takes place for about one day to twelve weeks.

3. (original) The method as set forth in claim 2 wherein the washing takes place from two weeks to twelve weeks.

4. (currently amended) The method as set forth in claim 2 wherein the ~~physiologic~~ solution contains ~~is~~ .9% phosphate buffered sodium chloride solution.

5. (currently amended) The method as set forth in claim 4 wherein the sodium chloride solution further ~~contains~~ is mixed with a potassium carbonate solution.

6. (original) The method as set forth in claim 5 wherein the potassium carbonate solution is between about .025 M and .05 M.

7. (original) The method as set forth in claim 6 wherein a .05 M potassium carbonate solution is used for a first portion of the washing and a .025 M potassium carbonate solution is used for a later portion of the washing.

8. (original) The method as set forth in claim 1 wherein the dehydration reduces the water content of the gel to its approximate in vivo equilibrium water content.

9. (currently amended) The method as set forth in claim 8 further including irradiating the molded gel after said washing with gamma irradiation.

10. (currently amended) The method as set forth in claim 89 wherein said molded gel is hydrated to about 80% water content prior to irradiation.

11. (currently amended) The method as set forth in claim 4 wherein said washing in said .9% phosphate buffered sodium chloride ~~saline~~ solution is for at least ~~one day~~two weeks.

12. (original) The method as set forth in claim 11 wherein said buffered sodium chloride solution includes potassium phosphate.

13. (currently amended) A process for treating a hydrogel comprising:

forming a hydrogel from a polymer solution by physically cross-linking the polymer; and

adjusting the equilibrium hydrogel crystallinity to insure that the swelling pressure of the hydrogel remains stable after implantation by washing the hydrogel in a saline solution including potassium carbonate.

14. (original) The process for treating a hydrogel as set forth in claim 13, wherein the saline solution contains between .025 and .05 M potassium carbonate.

15. (original) The process for treating a hydrogel as set forth in claim 14, wherein the washing takes place for at least one day.

16. (original) The process for treating a hydrogel as set forth in claim 15, wherein the washing takes place for between one day and 12 weeks.

17. (original) The process for treating a hydrogel as set forth in claim 13, wherein the washing solution is heated.

18. (original) The process for treating a hydrogel as set forth in claim 17 wherein the solution is heated to 37°C.

19. (original) The process for treating a hydrogel as set forth in claim 13, wherein the solution is a .9% phosphate buffered sodium chloride solution with between .025 M and .25 M potassium carbonate added thereto.

20. (original) The process as set forth in claim 19 wherein the potassium carbonate added is between .025 M and .05 M.

21. (previously presented) The method as set forth in claim 1 wherein the gel formed is semi-crystalline.

22. (previously presented) The method as set forth in claim 21 wherein the washing is done for two to twelve weeks in a .9% phosphate buffered sodium chloride solution.

23. (previously presented) The method as set forth in claim 22 wherein the solution further contains potassium carbonate.

24. (previously presented) The method as set forth in claim 21 wherein the physiologic solution has an ionic charge.

25. (previously presented) The method as set forth in claim 1 wherein the polymer is poly (vinyl alcohol).

26. (currently amended) The method as set forth in claim 1 wherein the hydrogel is physically cross-linked by a freezing-thawing technique.

27. (currently amended) A method of forming a hydrogel medical implant comprising:

preparing a polymer solution;

physically cross-linking the solution to form a semi-crystalline gel using a freezing-thawing technique;

adjusting the equilibrium hydrogel crystallinity to insure that the swelling pressure of the hydrogel remains stable after implantation by ~~increasing the crystallinity of the gel by~~ washing the gel in a saline solution which further contains potassium carbonate for at least one day.

28. (previously presented) The process for treating a hydrogel as set forth in claim 27 wherein the solution is a .9% phosphate buffered sodium chloride solution with between .025 M and .25 M potassium carbonate added thereto.

29. (currently amended) The method as set forth in claim 27 further including irradiating the molded gel after said washing with gamma irradiation.

30. (previously presented) The method as set forth in claim 27 wherein the polymer is poly (vinyl alcohol).